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Developing an economy based on knowledge and innovation:

EC priorities concerning agri-food research and innovation

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European Commission

Food,

Agriculture and **F**isheries,
and **B**iotchnology

Knowledge-Based Bio-Economy (KBBE)

Food, **A**griculture and **F**isheries, and **B**iotchnology

Knowledge - Based Bio - Economy (K B B E)



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Introduction

- **Challenges**
- **Actions**
- **Processes**





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EUROPE 2020

EU 2020 – a European strategy for smart, sustainable and inclusive growth

developing an economy based
on knowledge & innovation

promoting a more resource efficient,
greener & more competitive economy

fostering a high employment economy
delivering social & territorial cohesion

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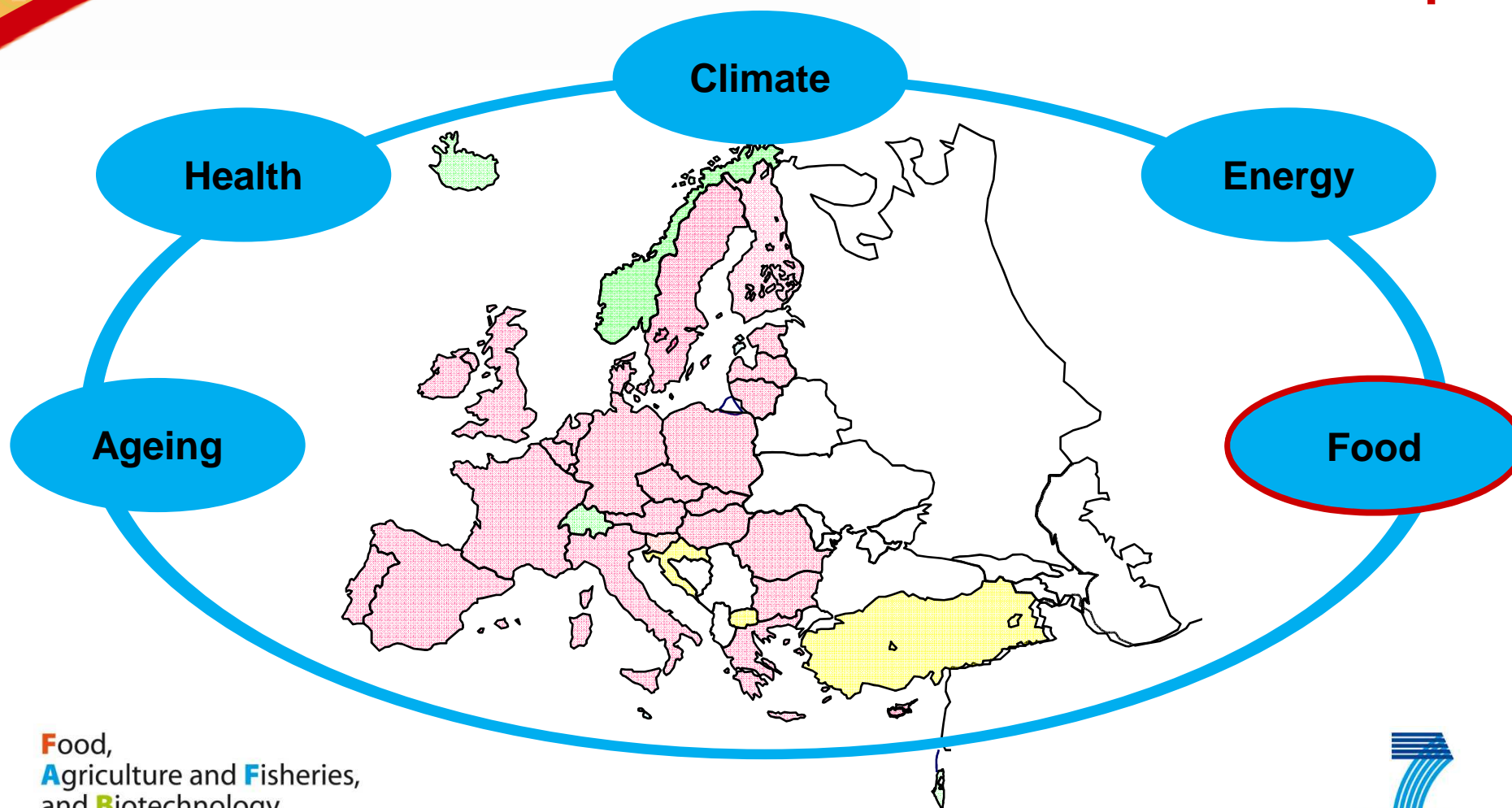
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Source: Consultation on the future « EU 2020 » strategy, 2009”



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Foreword: time of a deep transformation for Europe



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Source: "Consultation on the future of the EU 2020 strategy, 2009"



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BIO-ECONOMY

What is at stake?

**Providing food security to Europe and globally
while adapting to a changing climate**



Reducing the environmental impact of agriculture and Fisheries

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SEVENTH FRAMEWORK
PROGRAMME

This

on



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BIO-ECONOMY

What is at stake?

Making industry “greener”



Providing healthy food

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BIO-ECONOMY

What is at stake?

Closing the waste loop



Retaining the European lead in bio-sciences and technologies



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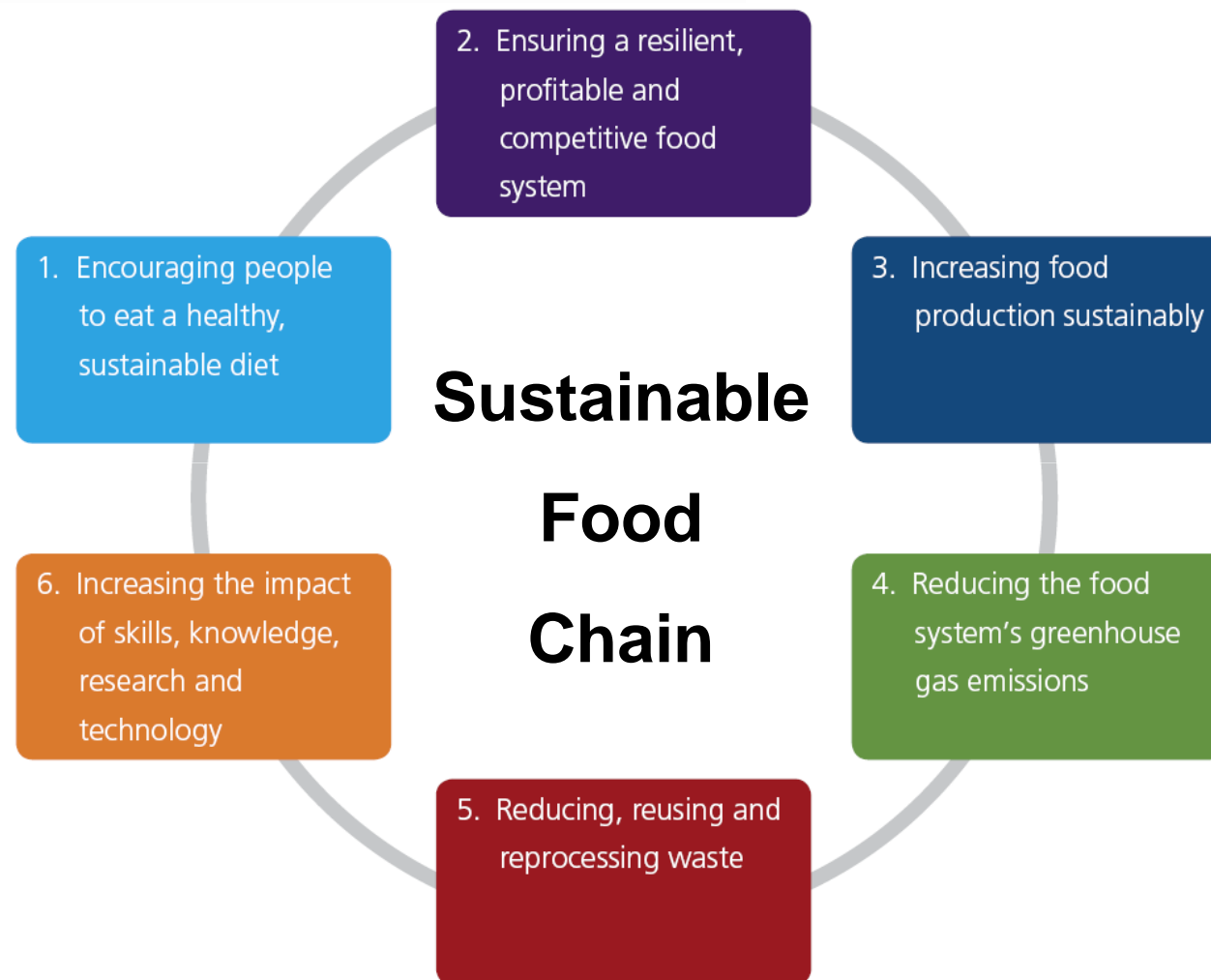




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Priorities



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and Biotechnology**
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Source: "Food 2030", DEFRA, 2009



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«DE-COMMODITISATION»

**Most of the value is in the processing
rather than in the commodity itself**

Farmer

**custodian of land & water resources,
applier of technologies that provide for long-term sustainability**

Assembler

insurer of origins & safety at all levels of the food chain

Processor

**developer of branded & own-label products that now provide
not only caloric content but also health & nutrition alternatives**

Distributor

**provider of unique foods for people to manage the health &
nutrition of the general population.**

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Adapted from Goldberg R. Nature Biotechnology 17 suppl. 1999



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Research and Innovation Actions

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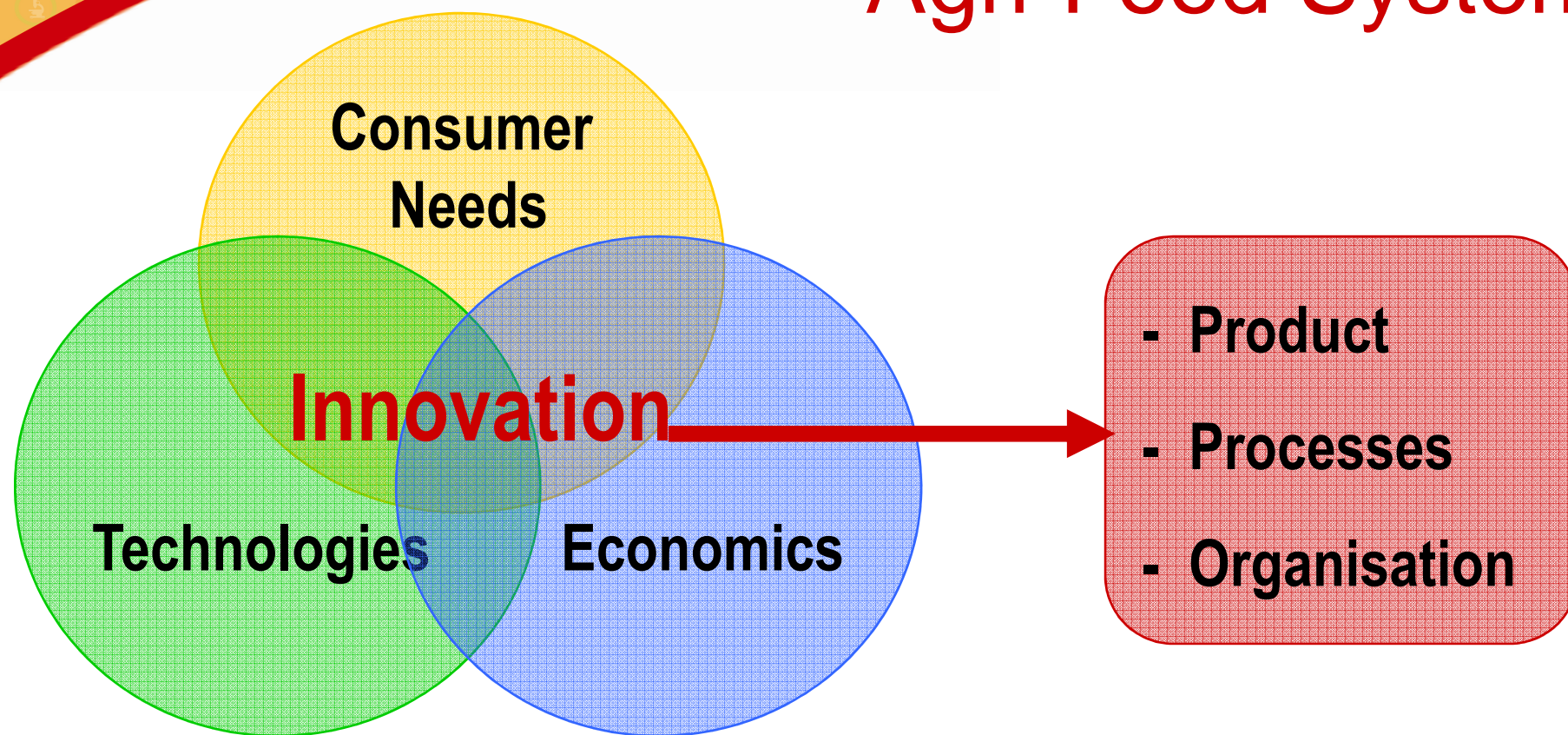




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Fostering innovation in Agri-Food Systems



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Source: «Consultation on the future «ES 2020» strategy, 2009»





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Fostering innovation in Agri-Food Systems

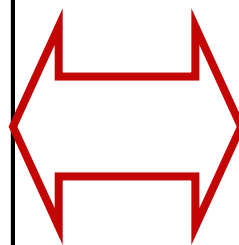
Types of innovators

'Radical' innovators

Bigger companies
With R&D department(s)
Effective networks

'Incremental' innovators

Smaller companies
No R&D department
No or less networks



Innovation from
own resources

Innovation by:

- Adoption
- Incremental change
- Combining knowledge
in new ways

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Source: Adapted from "Neglected
innovators: How do innovative firms that do
not perform R&D innovate?" INNO-Metrics
Thematic Paper No. 215 (2008)

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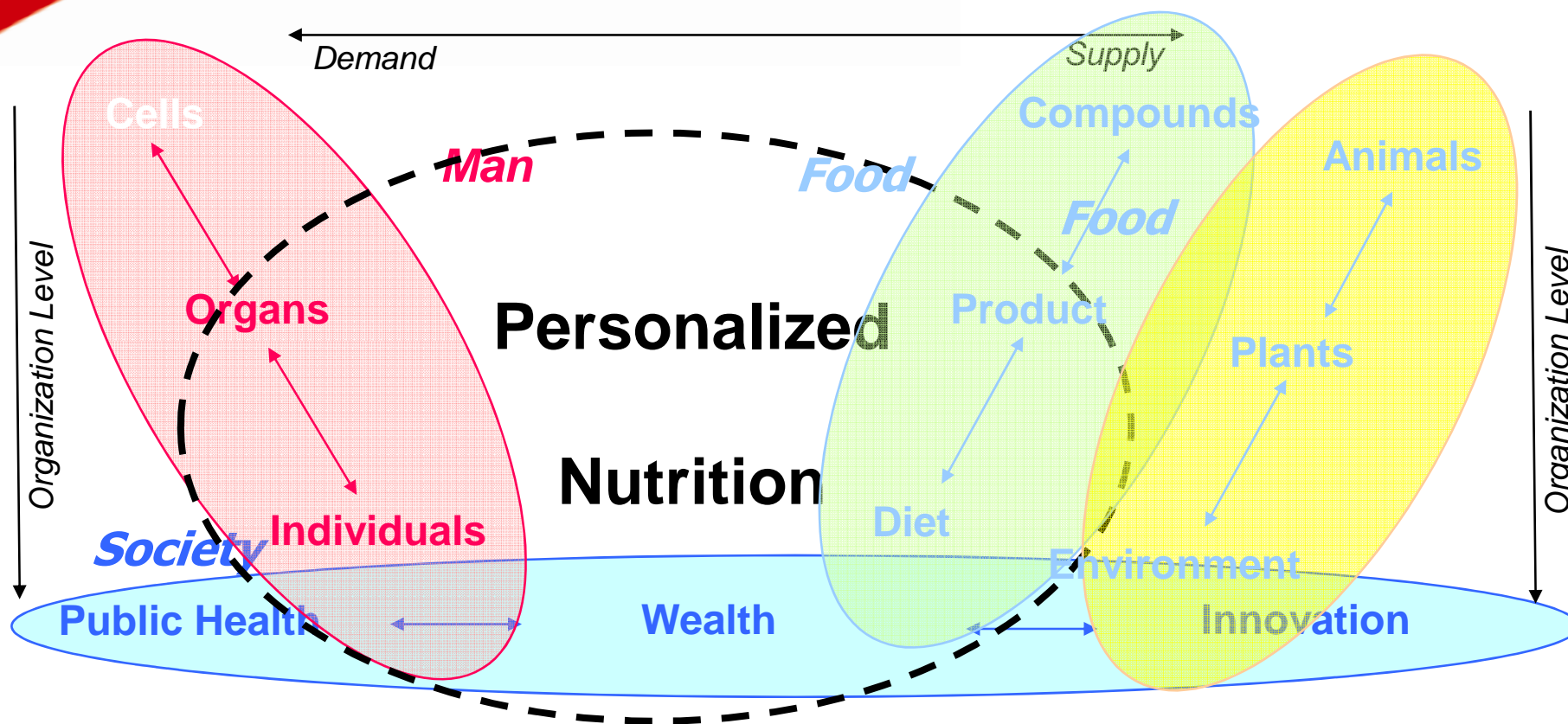




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Supporting changes in Food Industry



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Innovation:
Radical vs **Incremental**



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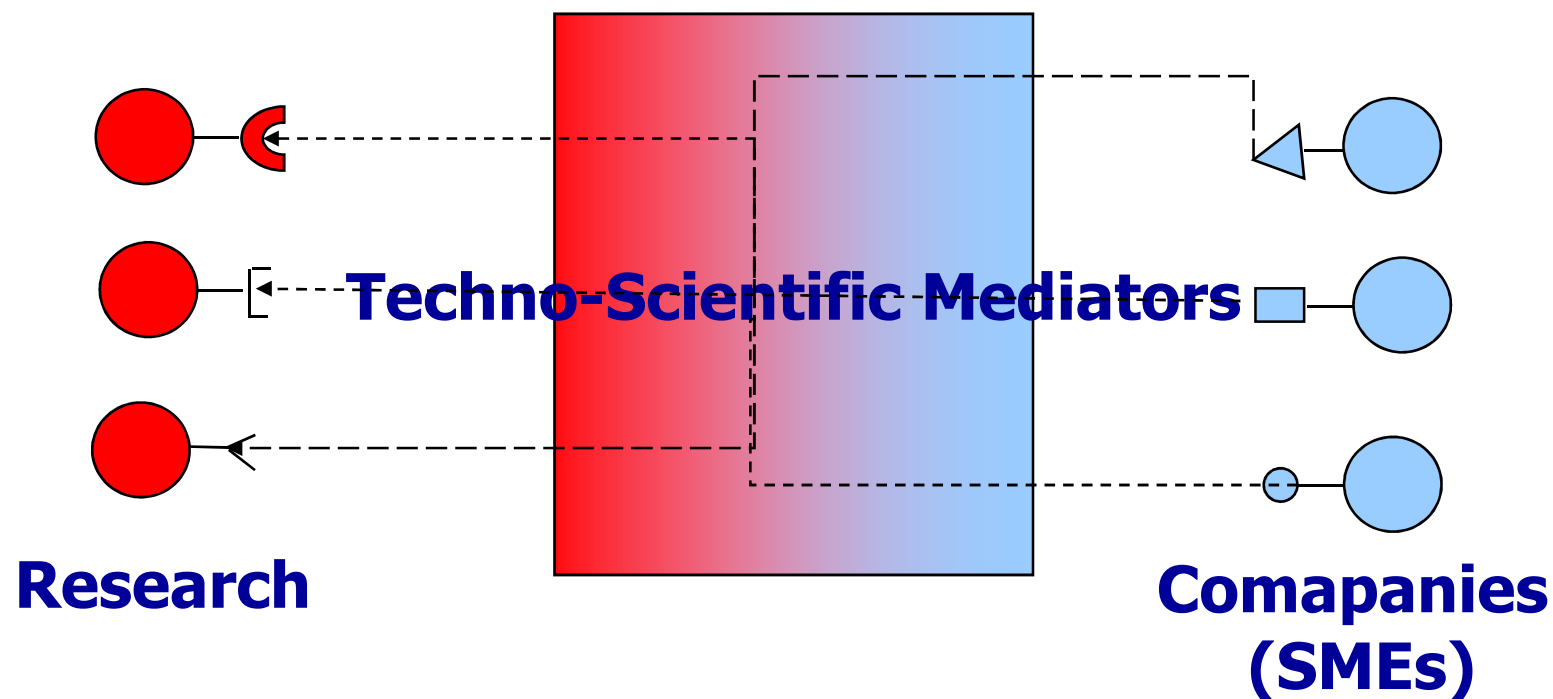


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Effective and sustainable system of technology transfer

Identify and tackle barriers of innovation



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Adapted from A. Sebok., ETP Food for Life SME Task Force

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Transferring knowledge to consumers **PERCEPTION**

**COMMUNICATION
FAILURE**

Traditional
Healthy
Simple
Tasty
Fair
...

Risk perception

EXPECTATIONS

REPUTATION

CONSUMER

TRUST

Risk Adversion

...
Policy
Safety
Quality
Economy
Sustainability

COMPLEXITY



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Integrated research

Policy

Policy Tools, Legislation (Labeling, Standards)

Consumer

Food Choice (quality, prices, information), Standards
Nutrition, Health, Well-being, Throw-away society

Processing

Quality Management Systems (traceability, brands), efficiency,
novel & traditional technologies, waste management

Agric Prod

Quality & Efficiency, Low input farming, organic, GMO's,
biodiversity, crop management, storage, losses, rural dev.

Agric Input

Plant protection, animal health; reduction of energy, water,
fertilisers, pesticide consumption & waste; precision farming

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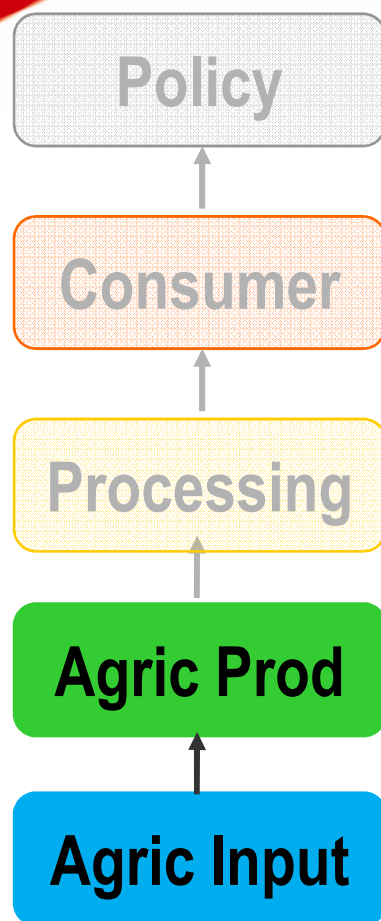




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Projects research Impacts: NUE-Crops



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- Improving nutrient efficiency in four major European crops (wheat, oilseed rape, potato, maize)
- Reduction of the negative environmental impact of crop production

Methods:

Genetic approach, Plant physiology studies,
Field experiments, Modelling for precision farming



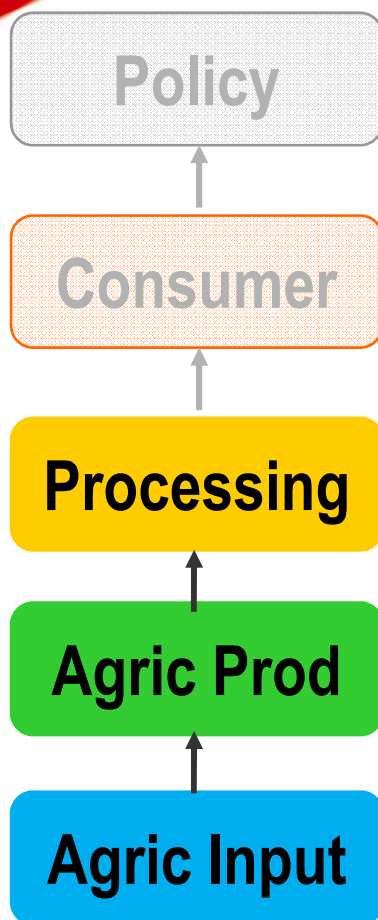
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Projects research Impact: VEG-i-TRADE



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- impacts of anticipated climate change & globalisation on food safety, microbiological & chemical hazards, of fresh produce and derived food products
- solution to minimize food safety risks, while addressing aspects of water quality & treatment, horticultural production practices, & packaging technologies.



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Projects research Impact: FLABEL

Policy

Consumer

Processing

Agric Prod

Agric Input

- Potential impact on healthier food choices
- Actual impact on the nutrition labelling for EU policy & the food industry (incl. SMEs (ongoing and future legislative and voluntary food labelling schemes))

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Ensuring a resilient, profitable and competitive agri-food system

Measure to counteract instabilities in the food sector:

Farmer



Food processor



Retailer



Consumer

Improvement of coordination:

- Strengthening economic relationship
- Intensifying communication
- Controlling price stickiness

Adapted from Fischer C. Eurochoices 8(3), 2009

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Processes



Processes

- ERA-nets
- Joint Programme Initiatives, eg
- Working with industry
 - 9 European Technology Platforms
 - 3 more are being formed
- Public Private Partnerships



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Joint Programme Initiatives

- Complementarities of EU and national research policies
- Goal: (utilising economies of scale & scope)
- Progress made: now -> setting up governance structures
- - based on Experts group's „Research programming cycle“ (SCAR)
 - Two examples....→

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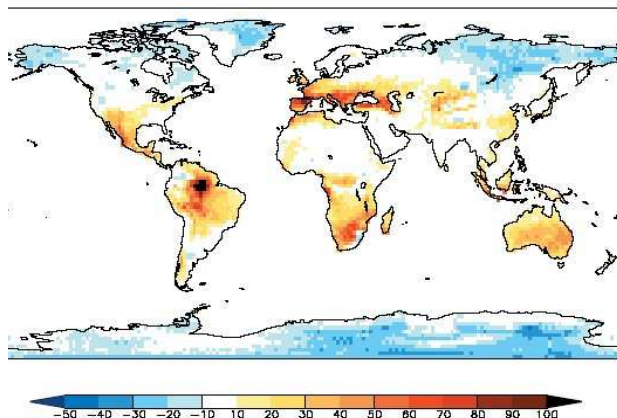


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Joint Programme Initiatives

“Agriculture, Food security and Climate change”



- Lead: FR/UK, 20 countries
- securing a safe and sustainable food supply

“A healthy Diet for a Healthy Life”

- Lead: NL, 17 countries
- Prevention of obesity and overweight



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Conclusions

- Refocusing of EU research policy on grand challenges
- Innovative Research & Solutions, Knowledge sharing & Investments
-> pivotal for European growth
- Strengthening of European Research Area

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www.cordis.europa.eu/fp7/kbbe/home_en.htm



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<http://bookshop.europa.eu>

EU research: www.europa.eu.int/comm/research

Sixth Framework Programme:

www.cordis.lu/fp6/home.html

www.cordis.lu/fp6/food.html

Seventh Framework Programme:

www.cordis.europa.eu/fp7/home.html

Information requests, Europe Direct

www.ec.europa.eu/research/index.pg=enquiries

DG Research Site:

www.europa.eu.int/comm/research/index_en.html

RTD info magazine:

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